

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 23 JUN 1934

Date of writing Report 27th May 1934 When handed in at Local Office 27th May 1934 Port of Montreal

No. in Survey held at Ogdensburg n.y. Date, First Survey 16th July 1933 Last Survey 8th May 1934
Reg. Book. (Number of Visits 10)

38927 on the M.S. "Badger State" EX YUKONDOC Tons { Gross 1539
Net 1118

Built at Port Glasgow By whom built Joly & Co. 986th St. Yard No. 298 When built 1912

Owners Federal Motorship Corp Port belonging to Buffalo n.y.

Electric Light Installation fitted by Contract No. When fitted 1928.

Is the Vessel fitted for carrying Petroleum in bulk no.

System of Distribution

Pressure of supply for Lighting 115 volts, Heating 230 volts, Power 230 volts.

Direct or Alternating Current, Lighting AC Power A.C.

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes

Position of Generators 2 on Port side and 2 on Star side of engine room, are the lubricating arrangements of the generators as per Rule Yes

is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

No wood work and are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axes of rotation fore and aft Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes, are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed at forward end of engine room

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard Yes

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes

are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes

with mica or mica-impregnated insulating material, and the slab similarly insulated from its framework Yes

and is the frame effectively earthed Yes. Are the fittings as per Rule regarding:— spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board no, proportion of omnibus bars all copper

individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches with terminals

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches main switch gear

four panels for generators with equalizers. 1. distribution panel for lighting and heating 1-400 amp. switch 2-100 amp. switch 10-30 amp. switches

Instruments on main switchboard 4 rheostats ammeters 6 voltmeters 1 synchronising device for paralleling purposes.

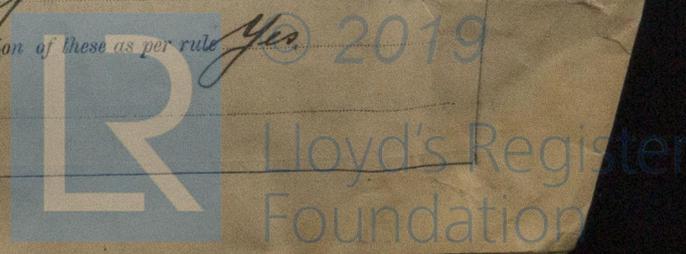
Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system provided with

ground lamp system

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes

W297-0274



Cables: Single, twin, concentric, or multicore *As in* are the cables insulated and protected as per Tables IV or V of the Rules *Yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2 Volt*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *Yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *Lead cables rubber moulated*

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes*

Support and Protection of Cables, state how the cables are supported and protected *Conduit and hangers*

If cables are run in wood casings, are the casings and caps secured by screws *as wood*, are the cap screws of brass *none*, are the cables run in separate grooves *✓*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *Yes*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *Yes*

Joints in Cables, state if any, and how made, insulated, and protected *rubber tape, cambric tape and friction tape*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *watertight glands*

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yes* state the material of which the bushes are made *lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *✓*

are their connections made as per Rule *✓*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *Yes*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *✓*

Navigation Lamps, are these separately wired *Yes*, controlled by separate switch and separate fuses *Yes*, are the fuses double pole *Yes*

are the switches and fuses grouped in a position accessible only to the officers on watch *Yes*

has each navigation lamp an automatic indicator as per Rule *Yes*

Secondary Batteries, are they constructed and fitted as per Rule *Yes*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *Yes*

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *guarded with*

vapour proof globes

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *no*

how are the cables led

with Conduit

where are the controlling switches situated *in engine room*

Searchlight Lamps, No. of *1*, whether fixed or portable *portable*, are their fittings as per Rule *Yes*

Arc Lamps, other than searchlight lamps, No. of *none*, are their live parts insulated from the frame or case *✓*, are their fittings as per Rule *✓*

Motors, are their working parts readily accessible *Yes*, are the coils self-contained and readily removable for replacement *Yes*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *Yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yes*

are they protected from mechanical injury and damage from water, steam or oil *Yes*, are their axes of rotation fore and aft *Yes*

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *watertight*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *✓* and *✓*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *Yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *Yes*

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *Yes*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *Yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	40	230	170	401	Diesel Motor	Diesel	150° above
AUXILIARY	1	25.20	230	168		"	"	"
EMERGENCY	✓		230	86				
ROTARY TRANSFORMER	✓							

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	0.2958	19	83.7 C.G.	170	260	50	Rubber 2.6 and armoured	
EQUALISER CONNECTIONS	1	0.10429	19	83.7 C.G.	85	120	25	"	"
AUXILIARY GENERATOR	1	0.10429	19	83.7 C.G.	168	120	40	"	"
EMERGENCY GENERATOR	✓	0.08395	19	74.5 C.G.					
ROTARY TRANSFORMER MOTOR	✓								
ENGINE ROOM	✓								
BOILER ROOM	✓								
AUXILIARY SWITCHBOARDS	✓								
ACCOMMODATION	✓								
WIRELESS				C.G.					
SEARCHLIGHT	1	0.00515	7	30.5	5 amps				
MASTHEAD LIGHT	1	0.0322	7	24.2	60 Watt				
SIDE LIGHTS	2	0.0322	7	24.2	60 Watt				
COMPASS LIGHTS	2	0.0322	7	24.2	30 Watt				
POOP LIGHTS									
6 CARGO LIGHTS	30	0.00820	7	38.5	200 Watt				
ARE LAMPS									
HEATERS	28	0.00820	7	38.5	10 amps				

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	0.00820	7	38.5	10	60	Rubber Double Handed and moulated		
MAIN BILGE LINE PUMPS	2	2	0.00820	7	38.5	16	60			
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP	1	1	0.00322	7	24.2	3.5 each	60			
SANITARY PUMP	1	1	0.00322	7	24.2	1.7	12			
CIRC. SEA WATER PUMPS	1	1	0.00820	7	38.5	16	30			
CIRC. FRESH WATER PUMPS	1	1	0.00322	7	24.2	3.5	45			
AIR COMPRESSOR										
FRESH WATER PUMP	1	1	0.00322	7	24.2	3.5	25			
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	0.00322	7	24.2	1.7	40			
OIL FUEL TRANSFER PUMP	1	1	0.00322	7	24.2	1.7	20			
WINDLASS	2	1	0.05249	19	59.1	65 each	300			
WINCHES, FORWARD										
WINCHES, AFT	1	1	0.04145	19	52.6	50	300			
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

All Conductors are of annealed copper conforming to British Standard Specification No. 7.
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass *apps 90 feet*
 Distance between electric generators or motors and steering compass *" "*
 The nearest cables to the compasses are as follows:—
 A cable carrying _____ Ampères _____ feet from standard compass _____ feet from steering compass.
 A cable carrying _____ Ampères _____ feet from standard compass _____ feet from steering compass.
 A cable carrying _____ Ampères _____ feet from standard compass _____ feet from steering compass.
 Have the compasses been adjusted with and without the electric installation at work at full power *Yes*
 Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted _____
 The maximum deviation due to electric currents was found to be _____ degrees on _____ course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

Builder's Signature. Date _____

Is this installation a duplicate of a previous case *no* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel had been previously fitted with an electric light installation and has now been thoroughly overhauled and part renewed. On completion it was tried out under full working conditions and proven satisfactory.*)

*Noted
 12.7.34*

Total Capacity of Generators *2- 40* Kilowatts.

1- 25
1- 20

The amount of Fee £ *75.00* When applied for, *29 May 34*

Travelling Expenses (if any) £ *✓* When received, *15/16/35*

Geo. Allan
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 110 AUG' 1934**

Assigned *See Insl Rpt. 3886*

Im. 11.23. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minutes.)